Citations format

1. Αλφαβητική τοποθέτηση

How to cite each reference in Chicago full note format

Examples of different types of references are shown in Table 1.

Table 1. Citation examples for different types of references.

Format in the references section	Format in text
Tolga, O., & Sert, S., (December 2019). "The Present Role of Anti-Drone Technologies in Modern Warfare and Projected Developments". Güvenlik Stratejileri Dergisi 15, no. 32: 691-711. https://doi.org/10.17752/guvenlikstrtj.668216.	(Tolga & Sert, 2019)
Prytula M.O., Khloba A.A., Shurkhal M.Y., 2023, ANALYSIS OF ANTI-DRONE SYSTEMS	(Prytula et.al., 2023)
Homeland Security Research Corp. (2018, September 11). The global counter-drone market is forecast to grow at a 2018-2023 CAGR of 37.2%. *PR Newswire: press release distribution, targeting, monitoring and marketing*. Cision PR Newswire. Retrieved March 10, 2025, from https://www.prnewswire.com/news-releases/the-global-counter-drone-market-is-forecast-to-grow-at-a-2018-2023-cagr-of-37-2-300710320.html	(Homeland Security Research Corp, 2018)

Rules

1) In the refences **section**, each reference is sorted alphabetically.
2) If multiple sources of the same author or group of authors exist, in the reference **section**, the sources are sorted from the oldest to the most recent one.
3) When citing multiple sources in **text**, the references are cited starting from the oldest to the most recent source. Exceptions are applied when multiple sources of an author or a group of authors are cited.

Examples

Example 1*: Citing multiple sources*

References in text:

During the 1950s computational modeling of galvanic corrosion and cathodic protection problems was carried out using analytical solutions of linear problems (Wagner 1952, 1957; Waber, 1954, 1955; Waber & Rosenbluth, 1956; Waber & Fagan 1956).

Part of References section

Waber, J. T. (1954). Mathematical Studies on Galvanic Corrosion I. Journal of The Electrochemical Society, 101(6), 271. https://doi.org/10.1149/1.2781244

Waber, J. T. (1955). Mathematical Studies of Galvanic Corrosion II. Journal of The Electrochemical Society, 102(7), 420. https://doi.org/10.1149/1.2430111

Waber, J. T., & Fagan, B. (1956). Mathematical Studies on Galvanic Corrosion III. Journal of The Electrochemical Society, 103(1), 64. https://doi.org/10.1149/1.2430234

Waber, J. T., & Rosenbluth, M. (1955). Mathematical Studies of Galvanic Corrosion IV. Journal of The Electrochemical Society, 102(6), 344. https://doi.org/10.1149/1.2430058

Wagner, C. (1952). Contribution to the theory of cathodic protection. Journal of the electrochemical society, 99(1), 1.

Wagner, C. (1957). Contribution to the Theory of Cathodic Protection II. Journal of The Electrochemical Society, 104(10), 631. https://doi.org/10.1149/1.2428431

Example 2: *Citing multiple sources published in the same year from the same group of authors*

References in text:

In the last decades, classical BEM implementations have become significantly more efficient, overcoming the drawbacks of very time-consuming computations and the high demand for computer memory by utilizing accelerating techniques such as fast multipole (Keddie et al. 2007; Liu, 2007) and adaptive across approximation (ACA) (Rodopoulos, et al. 2019; Kalovelonis et al., 2020, 2022a, 2022b; Gortsas et al., 2021).

Part of References section

Gortsas, T.V., Tsinopoulos, S.V., Polyzos, D., 2021. An accelerated boundary element method via cross approximation of integral kernels for large-scale cathodic protection problems. Comput-Aided Civ Inf. 1-16. https://doi.org/10.1111/mice.12687.

Kalovelonis, D.T., Rodopoulos, D.C., Gortsas, T.V., Tsinopoulos, S.V., Polyzos, D., 2020. Cathodic protection of a container ship using a detailed BEM model. J. Mar. Sci. Eng. 8, 359-373 https://doi.org/10.3390/jmse8050359.

Kalovelonis, D. T., Gortsas, T. v., Tsinopoulos, S. v., & Polyzos, D. (2022a). Accelerated boundary element method for direct current interference of cathodic protections systems. Ocean Engineering, 258, 111705. https://doi.org/10.1016/j.oceaneng.2022.111705

Kalovelonis, D. T., Gortsas, T. V., Tsinopoulos, S. V., & Polyzos, D. (2022b). Optimal Design of a Sacrificial Anode Cathodic Protection System for an Offshore Wind Turbine Jacket Foundation via Accelerated BEM, No 44, 13th congress of Hellenic Society of Theoretical and applied mechanics,

Stavroulakis, G.E., Polyzos, D., & Hatzigeorgiou, G.D. (ed.), Patras, Greece. ISSN / E-ISSN: / 2944-9359, ISBN/ 978-960-530-181-1

Keddie, A.J., Pocock, M.D., DeGiorgi, V.G., 2007. Fast solution techniques for corrosion and signatures modelling, in: Brebbia, C. A. (Ed.), WIT Transactions on Engineering Sciences vol 54, WIT Press, Southampton, pp. 225-234. https://doi.org/10.2495/ECOR070221.

Li, S.Y., Kim, Y.G., 2013. Numerical Modeling of Stray Current Corrosion of Ductile Iron Pipe Induced by Foreign Cathodic Protection System. Met. Mater. Int., 19, 717-729. https://doi.org/s12540-013-4011-9.

Rodopoulos, D.C., Gortsas T.V., Tsinopoulos, S. V., Polyzos, D., 2019. ACA/BEM for solving large-scale cathodic protection problems. Eng. Anal. Bound. Elem. 106, 139-148. https://doi.org/10.1016/j.enganabound.2019.05.011.

2. Τοποθέτηση με τη σειρά εμφάνισης στο κείμενο

How to cite each reference in IEEE format. See the following example.

Steel bars are placed in concrete to achieve the required tensile strength. Steel, used for concrete reinforcement, exhibits either active or passive electrochemical behavior. As long as the concrete environment remains highly alkaline, steel remains passive [1]-[3]. A thin passive oxide film forms on the reinforcing steel, which is only maintained at high pH values (~14) [3]. However, the ordinarily passive steel may corrode due to carbonation and/or chloride-induced corrosion [1]-[3]. Due to its porous nature, concrete is contaminated with atmospheric carbon dioxide and chloride ions. During carbonation, the pH decreases from ~14 to ~8 due to the formation of carbonic acid. At this pH, corrosion of the reinforcement is activated, leading to the formation of porous rust [1],[2]. In a concrete column, due to carbonation and/or chloride contamination, a part of the steel reinforcement becomes active while the rest remains passive [1],[2]. Due to the potential difference between active and passive steel parts, macrocell corrosion occurs, and the active steel becomes anodic while the passive becomes cathodic [4]. Cases of carbonated concrete, containing high chloride levels simultaneously are rare, though can be found, for instance, inside road tunnels [5].

Another reinforcement corrosion type is chloride-induced damage. Chloride movement through concrete is due to diffusion [6],[7]. Chloride ions act as an iron dissolution catalyst and may destroy the passive ferric oxide film even at high alkalinities and very low concentrations [1], [8], resulting in pitting corrosion. Another corrosion type of steel concrete reinforcement is alternating current corrosion, where the presence of a high alternating electric field causes the breakdown of the passive film [9],[10], resulting in localized corrosion of passive steel [11],[12].

Several methods can be used for corrosion control of reinforcement steel, such as using inhibitors in the concrete [1], [13], [14], [15], applying coatings on the concrete (zinc or organic) and/or on the steel [1], [13], [15], removing the chloride ions [1] and installing cathodic protection (CP) systems [1], [13], [15]. Regulations and standards [16], [17] recommend that in the case of active reinforcement corrosion, steel potential should be lowered through CP. Generally, the performance of a CP system is affected by several parameters, such as the concrete conductivity, the chloride and oxygen content in the concrete, the chemical composition of steel, and the carbonation depth [16],[17], [18].

The boundary element method (BEM) is a well-established numerical tool for solving CP problems. BEM offers the advantages of high solution accuracy, especially in the computation of potential gradients (current density), as well as reducing the problem dimensionality by one. The latter advantage is very pronounced, especially for infinite and semi-infinite electrolytes, since only the boundary surfaces must be discretized. The use of BEM for cathodic protection problems dates to 1982 when Fu & Chow [19] modelled an axisymmetric electrochemical tank. Since then, BEM has been extensively used for solving CP problems dealing with marine applications (e.g. [20]– [27]), underground structures (e.g. [28],[29],), and concrete reinforcement (e.g. [30]-[36]). Furthermore, using BEM, Brichau et.al [37], Treveleyan and Hack [38], Adey and Baynham [39], and Kalovelonis et. al [40], solved stray currents corrosion problems, Deconinck et.al. [41] modelled the electrode shape change, and DeGiorgi [42], Brichau and Deconinck [43] and Riemer and Orazem [44] modelled the coating breakdown and flaws using BEM. Also, BEM has been used to solve CP design optimization problems (e.g. [45]– [49]). The above-mentioned models are either two or three dimensional. Also, axisymmetric BEM formulations [50] and line elements [51] have been introduced to reduce the calculations. In the last decades, the BEM has become much more attractive to use by overcoming the disadvantages of time-consuming computations and the high demand for computer memory, utilizing acceleration techniques such as fast multipole [52], [53] and adaptive cross approximation (ACA) [25]-[27], [40]. With these techniques, it is possible to efficiently solve large-scale CP engineering problems with million degrees of freedom in a standard workstation [25]-[27], [40].

The numerical modelling of cathodically protected concrete buildings and infrastructures usually requires large-scale models due to their size and complex geometry. In the literature, real-world reinforced concrete CP problems are usually solved using 2D [54, 55] or simplified 3D models [30 - 32, [50], where a small part of the concrete column is analyzed by applying insulation boundary conditions on the outer column surfaces. An efficient modelling approach is to consider the periodicity appearing in these problems. To this end, a representative volume of the structure is considered, and periodic boundary conditions are applied [56]. To the best of our knowledge, a BEM formulation for solving CP problems, considering the existing periodicity, has not yet been proposed in the literature.

References

[1] Popov, B.N., 2015. Corrosion Engineering Principles and Solved Problems. Elsevier, Amsterdam.

[2] Tuutti, K., 1982. Corrosion of Steel in Concrete, Swedish Cement and Concrete Institute, Stockholm.

[3] Arora, P., Popov, B. N., Haran, B., Ramasubramanian, M., Popova, S., And R. E. White, 1997. Corrosion Initiation Time Of Steel Reinforcement In A Chloride Environment-A One Dimensional Solution. Corr. Sci. 39(4), 739-759.

[4] Warkus, J., & Raupach, M. (2008). Numerical modelling of macrocells occurring during corrosion of steel in concrete. Materials and Corrosion, 59(2), 122–130. https://doi.org/https://doi.org/10.1002/maco.200804164

[5] Bolzoni, F., Ormellese, M., Pedeferri, M., & Proverbio, E. (2022). Big milestones in the study of steel corrosion in concrete. Structural Concrete, n/a(n/a). https://doi.org/https://doi.org/10.1002/suco.202200315

[6] G.K. Glass, N.R. Buenfeld, 2000. The influence of chloride binding on the chloride induced corrosion risk in reinforced concrete, Corros. Sci. 42, 329–344.

[7] G.K. Glass, N.R. Buenfeld, 1998. Theoretical assessment of the steady state diffusion cell test, J. Mater. Sci. 33, 5111–5118.

[8] N.S. Berke, M.P. Dallaire, R.E. Weyers, M. Henry, J.E. Peterson, B. Prowell, 1992. Corrosion forms and control for infrastructure, in: V. Chaker (Ed.), ASTM STP 1137, ASTM International, Philadelphia, PA, 300–327.

[9] Brenna, A., Diamanti, M. V., Lazzari, L., & Ormellese, M. (2011). A proposal of AC corrosion mechanism in cathodic protection. In Proceedings of the 2011 NSTI Nanotechnology Conference and Expo, Boston, MA, USA, 13–16 June 2011; pp. 553–556

[10] Brenna, A., Ormellese, M., & Lazzari, L. (2016). Electromechanical Breakdown Mechanism of Passive Film in Alternating Current-Related Corrosion of Carbon Steel Under Cathodic Protection Condition. Corrosion, 72(8), 1055–1063. https://doi.org/10.5006/1849

[11] Brenna, A., Beretta, S., Bolzoni, F., Pedeferri, M., & Ormellese, M. (2017). Effects of AC-interference on chloride-induced corrosion of reinforced concrete. Construction and Building Materials, 137, 76–84. https://doi.org/https://doi.org/10.1016/j.conbuildmat.2017.01.087

[12] Brenna, A., Beretta, S., & Ormellese, M. (2020). AC Corrosion of Carbon Steel under Cathodic Protection Condition: Assessment, Criteria and Mechanism. A Review. Materials, 13(9). https://doi.org/10.3390/ma13092158

[13] Bolzoni, F., Brenna, A., & Ormellese, M. (2022). Recent advances in the use of inhibitors to prevent chloride-induced corrosion in reinforced concrete. Cement and Concrete Research, 154, 106719. https://doi.org/https://doi.org/10.1016/j.cemconres.2022.106719

[14] The National Association of Corrosion Engineers, 2017. NACE Standard SP0187-2017: Design Considerations for Corrosion Control of Reinforcing Steel in Concrete. NACE International, Houston.

[15] James, A., Bazarchi, E., Chiniforush, A.A., Panjebashi Aghdam, P., Hosseini, M.R., Akbarnezhad, A., Martek, I., Ghodoosi, F., 2019. Rebar corrosion detection, protection, and rehabilitation of reinforced concrete structures in coastal environments: A review, Constr. Build Mater. 224, 1026-1039, https://doi.org/10.1016/j.conbuildmat.2019.07.250.

[16] The National Association of Corrosion Engineers, 2011. NACE Standard RP0290-2000: Impressed Current Cathodic Protection of Reinforcing Steel in Atmospherically Exposed Concrete Structures. NACE International, Houston.

[17] CENELEC - European Committee for Electrotechnical Standardization, 2016. Cathodic protection of steel in concrete. CENELEC, Brussels.

[18] Pedeferi, P., 1996. Cathodic protection and cathodic prevention, Constr. Build Mater. 10(5), 391-402.

[19] Fu, J. W., & Chow, J. S. K. (1982). CATHODIC PROTECTION DESIGNS USING AN INTEGRAL-EQUATION NUMERICAL-METHOD. Materials Performance, 21(10), 9–12.

[20] Danson, D.J., and Warne, M.A.: Current density/voltage calculations using boundary element techniques, Proc. Corrosion/83, Paper No. 211, 1983

[21] Adey, R. A., Niku, S. M., Brebbia, C. A., & Finnegan, J. (1986). Computer aided design of cathodic protection systems. Applied Ocean Research, 8(4), 209–222. https://doi.org/https://doi.org/10.1016/S0141-1187(86)80037-2

[22] Zamani, N., 1988. Boundary element simulation of the cathodic protection system in a prototype ship. Applied Mathematics and Computation. 26, 119-134. https://doi.org/10.1016/0096-3003(88)90046-X

[23] Aoki, S., & Kishimoto, K. (1990). Application of BEM to Galvanic Corrosion and Cathodic Protection. In C. A. Brebbia (Ed.), Electrical Engineering Applications (pp. 65–86). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-48837-5_4

[24] Telles, J. C. F., Mansur, W. J., Wrobel, L. C., & Marinho, M. G. (1990). Numerical Simulation of a Cathodically Protected Semisubmersible Platform Using the PROCAT System. Corrosion, 46(6), 513–518. https://doi.org/10.5006/1.3585141

[25] Rodopoulos, D.C., Gortsas T.V., Tsinopoulos, S. V., Polyzos, D., 2019. ACA/BEM for solving large-scale cathodic protection problems. Eng. Anal. Bound. Elem. 106, 139-148. https://doi.org/10.1016/j.enganabound.2019.05.011.

[26] Kalovelonis, D.T., Rodopoulos, D.C., Gortsas, T.V., Tsinopoulos, S.V., Polyzos, D., 2020. Cathodic protection of a container ship using a detailed BEM model. J. Mar. Sci. Eng. 8, 359-373 https://doi.org/10.3390/jmse8050359.

[27] Gortsas, T.V., Tsinopoulos, S.V., Polyzos., 2021. An accelerated boundary element method via cross approximation of integral kernels for large-scale cathodic protection problems. ComputAided Civ Inf. 1-16. https://doi.org/10.1111/mice.12687.

[28] Purcar, M., Van den Bossche, B., Bortels, L., Deconinck, J., Wesselius, P., 2003. Numerical 3-D Simulation of a Cathodic Protection System for a Buried Pipe Segment Surrounded by a Load Relieving U-Shaped Vault. Corrosion, 59, 1019-1028. https://doi.org/10.5006/1.3277520.

[29] Riemer, D. P., & Orazem, M. E. (2005). A mathematical model for the cathodic protection of tank bottoms. Corrosion Science, 47(3), 849–868. https://doi.org/https://doi.org/10.1016/j.corsci.2004.07.018

[30] Fonna, S, Huzni, S., Zaim, A., 2017. Simulation of Cathodic Protection on Reinforced Concrete Using BEM, JMechE 4(2), 111-122.

[31] Masuda, M., Arita, M., Ju, L. E., Hanada, K., Minagawa, H., & Kawamata, K. (2004). The application of FEM to cathodic corrosion protection of steel reinforcement in concrete. Materials Transactions, 45(12), 3349-3355. https://doi.org/10.2320/matertrans.45.3349.

[32] Warkus, J., Brem, M., & Raupach, M. (2006). BEM-models for the propagation period of chloride induced reinforcement corrosion. Materials and Corrosion, 57(8), 636–641. https://doi.org/https://doi.org/10.1002/maco.200603995

[33] Gulikers, J., & Raupach, M. (2006). Numerical models for the propagation period of reinforcement corrosion - Comparison of a case study calculated by different researchers. Materials and Corrosion, 57(8), 618–627. https://doi.org/https://doi.org/10.1002/maco.200603993

[34] Brem, M. (2004), Numerische Modellierung der Korrosion in Stahlbetonbauten: Anwendung der Boundary Element Methode, Eidgenössischen Technischen Hochschule

Zürich.

[35] Warkus, J., & Raupach, M. (2010). Modelling of reinforcement corrosion – geometrical effects on macrocell corrosion. Materials and Corrosion, 61(6), 494–504. https://doi.org/https://doi.org/10.1002/maco.200905437

[36] Warkus, J., & Raupach, M. (2006). Modelling of reinforcement corrosion – Corrosion with extensive cathodes. Materials and Corrosion, 57(12), 920–925. https://doi.org/https://doi.org/10.1002/maco.200604032

[37] Brichau, F., Deconinck, J., Driesens, T.,1996. Modeling of underground cathodic protection stray currents. Corrosion, 52, 480-488.

[38] Trevelyan, J., Hack, H.P., 1994. Analysis of stray current corrosion problems using boundary method, in: Brebbia, C. A. (Ed.), WIT Transactions on Modelling and Simulation vol 8, WIT Press, Southampton, pp. 347-356.

[39] Adey, R.A., Baynham, J.,2000. Computer simulation as an aid to CP system design and interference prediction, in Proc. of the CEOCOR 2000 conference, Brussels

[40] Kalovelonis, D. T., Gortsas, T. v., Tsinopoulos, S. v., & Polyzos, D. (2022). Accelerated boundary element method for direct current interference of cathodic protections systems. Ocean Engineering, 258, 111705. https://doi.org/10.1016/j.oceaneng.2022.111705

[41] Deconinck, J., Maggetto, G., & Vereecken, J. (1985). Calculation of Current Distribution and Electrode Shape Change by the Boundary Element Method. Journal of The Electrochemical Society, 132(12), 2960–2965. https://doi.org/10.1149/1.2113701

[42] DeGiorgi, V. G. (2002). Evaluation of perfect paint assumptions in modeling of cathodic protection systems. Engineering Analysis with Boundary Elements, 26(5), 435–445. https://doi.org/https://doi.org/10.1016/S0955-7997(01)00104-7

[43] Brichau, F., & Deconinck, J. (1994). A Numerical Model for Cathodic Protection of Buried Pipes. CORROSION, 50(1), 39–49. https://doi.org/10.5006/1.3293492

[44] Riemer, D.P., Orazem, M.E., 2005. Modeling coating flaws with non-linear polarization curves for long pipelines, in: Brebbia, C. A. (Ed.), WIT Transactions on State of the Art in Science and Engineering vol 7, WIT Press, Southampton, pp. 225-257. https://doi.org/10.2495/1-85312-889-9/09.

[45] Aoki, S., & Amaya, K. (1997). Optimization of cathodic protection system by BEM. Engineering Analysis with Boundary Elements, 19(2), 147–156. https://doi.org/https://doi.org/10.1016/S0955-7997(97)00019-2

[46] Zamani, N. G., & Chuang, J. M. (1987). Optimal control of current in a cathodic protection system: A numerical investigation. Optimal Control Applications and Methods, 8(4), 339–350. https://doi.org/https://doi.org/10.1002/oca.4660080404

[47] Miltiadou, P., & Wrobel, L. C. (2002). A BEM-based genetic algorithm for identification of polarization curves in cathodic protection systems. International Journal for Numerical Methods in Engineering, 54(2), 159–174. https://doi.org/https://doi.org/10.1002/nme.413

[48] Santana Diaz, E., & Adey, R. (2005). Optimising the location of anodes in cathodic protection systems to smooth potential distribution. Advances in Engineering Software, 36(9), 591–598.,

[49] Kalovelonis, D. T., Gortsas, T. V., Tsinopoulos, S. V., & Polyzos, D. (2022). Optimal Design of a Sacrificial Anode Cathodic Protection System for an Offshore Wind Turbine Jacket Foundation via Accelerated BEM, No 44, 13th congress of Hellenic Society of Theoretical and applied mechanics, Stavroulakis, G.E., Polyzos, D., & Hatzigeorgiou, G.D. (ed.), Patras, Greece. ISSN / E-ISSN: / 2944-9359, ISBN/ 978-960-530-181-1

[50] Ihsan, M., Fonna, S., Kurniawan, R., Fuadi, Z., & Ariffin, A. K. (2019). Computational Modelling for RC Cylindrical Column Corrosion using Axisymmetric BEM. 2019 IEEE International Conference on Cybernetics and Computational Intelligence (CyberneticsCom), 82–86. https://doi.org/10.1109/CYBERNETICSCOM.2019.8875678

[51] Liu, L.Q., Wang, H.T., 2013. A Line Model-Based Fast Boundary Element Method for the Cathodic Protection Analysis of Pipelines in Layered Soils, CMES 90, no.6, pp.439-462.

[52] Keddie, A.J., Pocock, M.D., DeGiorgi, V.G., 2007. Fast solution techniques for corrosion and signatures modelling, in: Brebbia, C. A. (Ed.), WIT Transactions on Engineering Sciences vol 54, WIT Press, Southampton, pp. 225-234. https://doi.org/10.2495/ECOR070221.

[53] Liu, Y.J., 2009. Fast Multipole Boundary Element Method: Theory and Applications in Engineering, Cambridge University Press.

[54] Cheung, M.M.S., Cao, C.,2013. Application of cathodic protection for controlling macrocell corrosion in chloride contaminated RC structures, Constr. Build Mater. 45, 199-207. https://doi.org/10.1016/j.conbuildmat.2013.04.010

[55] Goyal, A., Olorunnipa, E. K., Pouya, H. S., Ganjian, E., Olubanwo A. O., 2020. Potential and current distribution across different layers of reinforcement in reinforced concrete cathodic protection system- A numerical study, Constr. Build Mater. 262, 120580. https://doi.org/10.1016/j.conbuildmat.2020.120580.

[56] Siemens Digital Industries Software. Simcenter STAR-CCM+, version 2022.1, Siemens 2022.